

CLAIMS

1. A plastic lined steel pipe characterized by having an adhesive layer on an inner surface of a steel pipe or a steel pipe galvanized on its outer surface,  
5 having a plastic layer on its further inner side, and having an initial shearing adhesion strength between the steel pipe and the plastic layer of 2.0 MPa or more, said steel pipe being a steel pipe given substrate treatment on its inner surface in advance, said substrate treatment  
10 comprising forming a phosphate chemical treatment coating treated for grain refinement.

2. A plastic lined steel pipe as set forth in claim 1, wherein said plastic layer is a polyolefin resin or a cross-linked polyolefin resin.

15 3. A plastic lined steel pipe as set forth in claim 1 or 2, wherein said adhesive layer is comprised of one or more of a maleic anhydride-modified polyolefin, itaconic anhydride-modified polyolefin, ethylene/maleic anhydride copolymer, ethylene/maleic anhydride/acrylate  
20 copolymer, ethylene/maleic anhydride/acrylate ester copolymer, ethylene/acrylate copolymer, ethylene/acrylate ester copolymer, ethylene/methacrylate copolymer, ethylene/vinyl acetate copolymer, and ionomer, and a melt end temperature of the adhesive layer is over a usage  
25 temperature of said plastic layer and less than a melt start temperature.

4. A plastic lined steel pipe as set forth in any one of claims 1 to 3, wherein an epoxy primer layer is provided between said steel pipe and said adhesive layer.

30 5. A plastic lined steel pipe as set forth in any one of claims 1 to 4, wherein a primary anti-rust coating, a zinc rich paint coating, or a polyolefin coating is provided on the outer surface of said plastic lined steel pipe instead of galvanization.

35 6. A method for producing a plastic lined steel pipe as set forth in any one of claims 1 to 5, comprising, when producing said plastic lined steel pipe,

applying substrate treatment to a steel pipe or applying  
substrate treatment to a steel pipe, then applying an  
epoxy primer layer, inserting a plastic pipe having an  
outside diameter smaller than the inside diameter of the  
5 steel pipe and having an adhesive layer on its outer  
surface into said steel pipe, drawing the steel pipe so  
as to make the plastic pipe come in close contact with  
the steel pipe, then heating the result at a temperature  
not less than a melt end temperature of the adhesive  
10 layer and less than a melt start temperature of the  
plastic pipe.

7. A method for producing a plastic lined steel  
pipe as set forth in claim 6, further comprising, when  
drawing said steel pipe, drawing the steel pipe so that  
15 the outside diameter of the plastic pipe is reduced by  
0.5 to 10%.